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**Report :**

We have created a demo app to test its bugs and errors and measure how we can solve and overcome those bugs.

We used Android studio to create the app.Creating this app requires knowledge of Java ,Xml and android application implementation knowledge etc.

**Implementation:**



In a music player we need,a play button,a pause button and a reset button which will play desired music accordingly**.**

**Xml code for these 3 buttons are :**

<Button  
 android:id="@+id/pause"  
 style="@style/Widget.AppCompat.Button.Borderless.Colored"  
 android:layout\_width="125dp"  
 android:layout\_height="match\_parent"  
  
 android:background="@android:drawable/ic\_media\_pause"  
 android:onClick="musicpause" />  
  
<Button  
 android:id="@+id/start"  
 style="@style/Widget.AppCompat.Button.Borderless"  
 android:layout\_width="125dp"  
 android:layout\_height="match\_parent"  
 android:background="@android:drawable/ic\_media\_play"  
 android:onClick="musicplay" />  
  
<Button  
 android:id="@+id/stop"  
 style="@style/Widget.AppCompat.Button.Borderless"  
 android:layout\_width="125dp"  
 android:layout\_height="match\_parent"  
 android:background="@android:drawable/ic\_delete"  
 android:onClick="musicstop" />

Xml executes the design part of our program.However these are just blueprints of those buttons.Then we and connect the xml code with main and then we called the xml buttons in our main class.Through these codes:

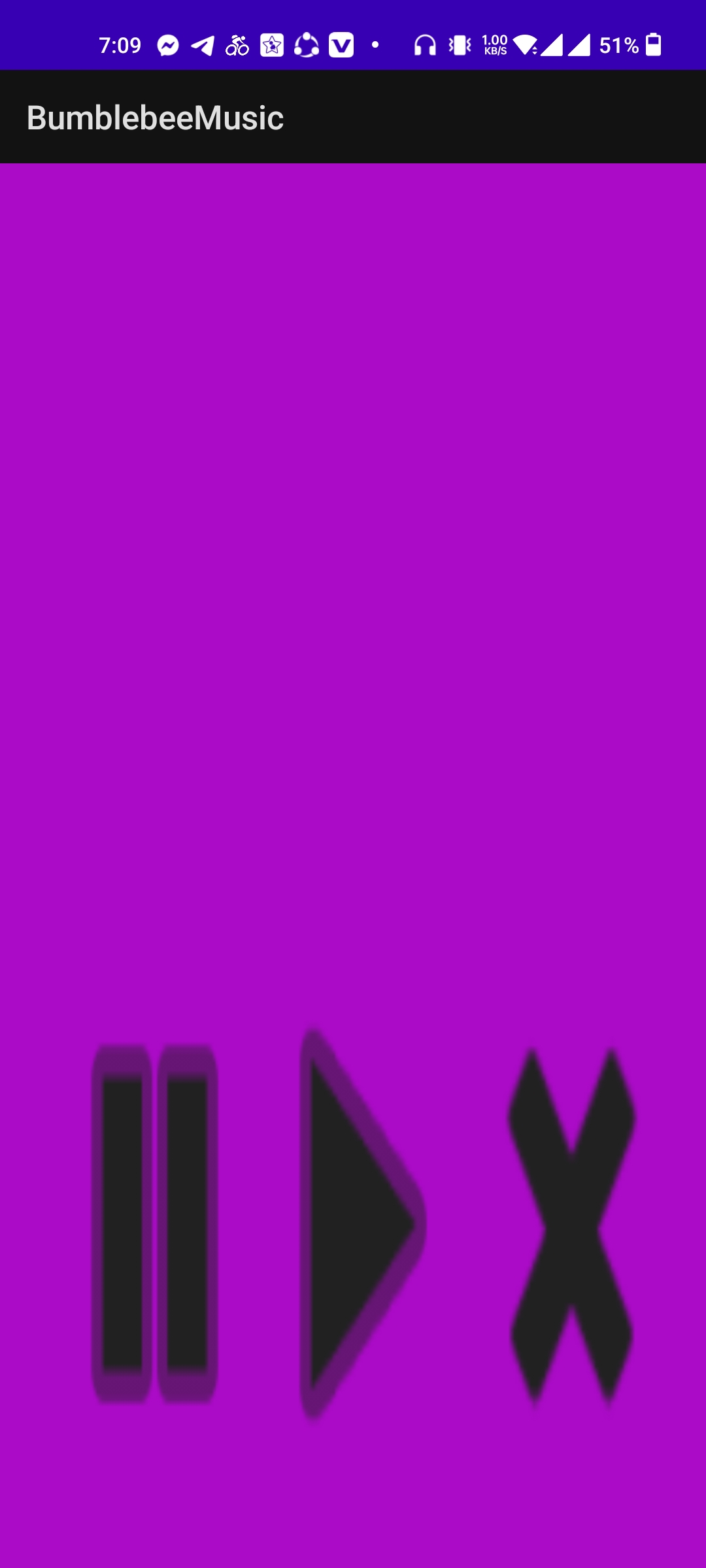
public void musicplay(View v)  
{  
 music.start();  
}  
  
// Pausing the music  
public void musicpause(View v)  
{  
 music.pause();

}

And then we added music file in our program by:

music = MediaPlayer.*create*(  
 this, R.raw.*sound*);

Now our basic application is created.We can now test its bugs and provide designs for future improvements.



.I have used android studio as ide and android version 5 so that it is supported in almost all android devices with api versioi 30.And used mobile as debugging mode to run the app.

**Future implementation:**

In a music player it is important to include all music contents inside the device and categorize them and suggest certain playlist.

Also visualization of an audio is a good idea to represent in the app.We are going to add imagebox to show concurrent image for the music.

**Automated Testing:**

Now if I want to do an automated test on this software,I will need to follow a few steps.Which are:

1.**Scope Definition:** In this step we analyze facts like budget,personal,expertise and also decide specifically whether automated or manual test has to be implemented.

**2. Automation tool selection :** According to requirements we will use different kinds of softwares with accordance to the technology used.There are a lot of automation tools that are used for our purpose.

**3.Design a strategy :** A test plan must be created setting out all the steps and main goal of a project.Suitable frameworks are used to operate the test.Keyword-driven,data-driven,linear scripting etc are some automation testing framework**.**

**4.Set Environment :** Right environment in both software and hardware with good setup is a must for the test.Developing test bed scripts and track environment will be tracked by the test team.

**5.Script writing :**Reusable,structured and easily understandable scripts are written by the test engineers according to requirements .Android monitor,appium and webdriver are ope-source tools and allow you to create personalized automated test scripts.And Java and Python are used to test web based applications.

**6.Execute tests :** Basically we can automate QA in two ways that are :API testing and GUI testing.

**API testing**: Its full form is application programming interface.API comes between DataBase and Presentation layer.All the functionalities of data communication and exchange of data are performed by APIs.Reliability,functionality,security and performance all are tested in API testing.

**GUI Test :** GUI is the graphical interface of an application which the user interacts with.A GUI has additional test cases that need to be tesed.Like a GUI operation may work perfectly but its underlying functionalites may not.For example Mcrosoft Word has around 330 GUI operations.However testers face more difficulty while doing regression testing.

There is another drawback.That is sequencing problem.There lies many GUI events that are executed right when needed otherwise the operations of the userexperience may be harmed.Like clicking a file menu we get a select file and right clicking it gives us some action list.If the GUI operations were altered with different operations then it would seem to present no meaning.